

## **REMARKS**

The present Amendment is in response to the Office Action mailed February 23, 2007. Claims 4 is cancelled, claims 14-15 are currently withdrawn, and claims 1, 5, and 6 are amended. Claims 1-3, and 5-13 remain pending in view of the above amendments.

Please note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited references. Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

### **Rejection Under 35 U.S.C. § 102 or, in the alternative, § 103**

The Office Action rejected claims 1-13 under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over JA 2002-032909 (hereinafter *Hironao*).

The Office Action also rejected claims 1-13 under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over US 2002/0127432 (hereinafter '*432*').

The Office Action rejected claims 1-13 under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over US 2003/0164005 (hereinafter '*005*').

Because *Hironao*, '*432*', and '*005*' do not teach or suggest each and every element of the pending claims, Applicants respectfully traverse these rejections in view of the following remarks.

Embodiments of the invention are directed to a glass substrate for a magnetic recording medium. As noted in the claims, the textures of the glass substrate have specific characteristics, including a specific width W, a height H, a ratio (Rp/RMs), and a

bearing height BH. The Examiner considers that the claimed textures are taught by the cited references and can be made according to a method disclosed in the cited references. Applicants respectfully disagree.

Tables 7 and 8 of the present specification illustrate some of the conditions that relate to texture formation. These conditions include grain diameter, rotating number of a tape, and pressing load of the tape. Slight changes in the conditions of the texture forming process can cause different bearing heights and different textures.

Further, tables 7 and 8 illustrate that if the conditions for texture formation are substantially the same, the values of the bearing heights may vary. In Example 24 in the tables 7 and 8, BH(0.01)-BH(0.4) is 0.18 nm and BH(0.4)-BH(1.0) is 0.15 nm. The difference between both values is 0.03 nm. In Example 30, BH(0.01)-BH(0.4) is 0.44 nm and BH(0.4)-BH(1.0) is 0.16 nm. The difference between both values is 0.28 nm.

In these examples, the difference between BH values in Example 30 is quite different from the difference between BH values in Example 24. Accordingly, if the bearing height BH varies, the results of drive tests vary as shown in Table 8. As a result, the selection of specific BH values for a texture can result in several advantages, including satisfactory levitation of the magnetic head.

*Horinao* discloses a substrate for magnetic-recording media. The substrate has texture ridges along concentric circles. The height of the ridges is 3 nm or less. The width of the ridges is in the range from 20 nm to 60 nm. See ¶[0011]. The roughness of the substrate, Rmax is preferably 8 nm or less. See ¶[0020]. The roughness, Ra, is measured in the 5 µm square measurement range of an atomic force microscope, AFM. See ¶[0037]. However, none of texture ridges along concentric circles, the height or width of the ridges, or the roughness, teach or suggest bearing heights. In other words, *Horinao* fails to disclose and teach the claimed feature regarding the specific values of bearing heights.

The '432 reference discloses a glass substrate for a magnetic recording medium. The substrate has ridge textures along concentric circles. The roughness, Ra, of the substrate is in the range from 0.5 to 1.0 nm. The maximum value, Rmax, is 3.0 nm or higher. See ¶[0027]. The line density of the surface is 5,000 to 40,000 lines per mm.

See ¶[0032]. In this case, the roughness and line density of ridges fails to teach or suggest specific values of bearing heights. Thus, the '432 reference fails to disclose and teach the claimed feature regarding the specific values of bearing heights.

The '005 reference discloses a glass substrate of information recording medium. The substrate has ridge textures along concentric circles. Parameters indicating roughness of the texture (maximum peak height  $R_p$ , root mean square roughness RMS, and maximum valley height  $R_y$ ) are measured by an atomic force microscope, AFM. See ¶[0053]. When the ridges have a height  $H$  of 2 to 10 nm, it is preferred that the recesses have an average depth  $D$  of 2 nm or less. See ¶[0055]. Like *Horinao* and the '432 reference, the '005 reference fails to disclose and teach the claimed feature regarding the specific values of bearing heights.

Because the cited references fail to disclose the claimed feature regarding the specific values of bearing heights, Applicant respectfully submits that the pending claims are not anticipated and are patentable over the cited at.

### **Conclusion**

In view of the foregoing, Applicants believe the claims as amended are in allowable form. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or which may be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 25<sup>th</sup> day of June, 2007.

Respectfully submitted,

/Carl T. Reed/ Reg. # 45454

CARL T. REED

Registration No. 45,454  
Attorney for Applicant  
Customer No. 022913  
Telephone No. 801.533.9800